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ABSTRACT

A study was conducted to test the validity of the Linguistic Features Hypothesis, which predicts that unmarked personal pronouns will be learned first by children, yielding the following order of acquisition: first person before second, followed by third; singular before plural; and subjective case before objective or genitive. A review of the literature generally supports this view. This study, motivated by the lack of a comprehensive approach to pronoun acquisition research, studied comprehension data for "I," "you," "he," "she," "it," "we," and "they." The subjects, 30 middle-class male and female English-speaking children from 2 1/2 to 4 1/2 years of age, were tested for comprehension of the genitive and objective cases through commands eliciting behavioral responses, and for comprehension of the subjective case through commands eliciting verbal responses. No correct responses were found to "it," and this pronoun was dropped from further analysis. The oldest subject group (4 1/2 years) performed better than the two other groups (3 1/2 and 2 1/2 years). No support was found for the prediction that first person precedes second. However, singular forms were comprehended significantly better than plural ones. Finally, no effects were found for case. Thus only partial support was found for the Linguistic Features Theory. (AM)

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Young Children's Comprehension of Person Pronouns

Our study is about young children's understanding of person pronouns. Despite the importance some investigators have assigned to the mastery of pronominal forms (for example, Lois Bloom, and Katherine Nelson), there are still relatively few data on the topic. We do know from several studies that prounouns are not among the earliest words produced by young children. Delay in acquiring the pronominal forms may be due, in part, to the inconsistency of their referents. For example, ("Uncle Fred" is always "Uncle Fred" to a child, no matter who is speaking about (the child's uncle) but "I" can refer to any speaker, "you" to any listener, and "he, she," and "it" to a variety of people and objects. Note that the meanings here, (speaker, listener, etc.) are consistent, but the referents vary. Thus important factors in understanding pronominal referents become who is speaker, who is addressed, and even who is included or excluded in a group such as "we" or "they." In addition, pronouns are distinguished by three semantic components: Person, (1st, 2nd, 3rd), Number (singular & plural), & Case (Such as subjective, objective, genitive, etc.)

What few data are available have not always agreed on the acquisition order of these semantic components. In general, singular and subjective forms seem easier, and 1st Person tends to precede second, which tends to precede third.

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Recent work however has called into question both the nature of the data and the explanations offered. We will contrast our work to that of 3 other investigators. All have been motivated to study pronouns in an effort to support or refute the Linguistic Features Hypothesis. Briefly this Hypothesis would predict that unmarked pronouns will be learned first, yielding the following orders: 1st Person before second, then third; singular before plural, and subjective case before objective or genitive.

Huxley's (1970) study of the pronoun production of two children generally supported this hypothesis -- she found singular forms produced before plural ones, the unmarked subjective case produced before the marked objective and genitive cases, and some support for the earlier appearance of first person, although her data for "we" were inconsistent. Huxley insists that "we" is the most semantically complex of all the person pronouns. Yet her female subject produced it early and her male subject produced it last.

Sharpless' theory is that the perceptual features of the situation are more powerful constraints on pronoun acquisition than are the purely linguistic features of the pronoun. Thus factors like the Communication Dyad, that is — who is speaker, who is addressed, and who is referred to, become important. Her theory leads to the same predictions as Linguistic Features Theory in a situation where the child

is the person addressed. And in fact, her results are consistent with the predictions. Her predictions contrast with those of Linguistic Features Analysis in a situation where the child is an onlooker to others involved in a communication dyad, but this condition is not relevant to our study.

Our study was motivated by the lack of a comprehensive approach to pronoun acquisition. Huxley used only 2 subjects and studied production, which may underestimate the child's knowledge. Although Sharpless did study comprehension, she too had a small sample and studied only singular, genitive pronouns - that is - "my, your, his, her."

In addition, Baron and Kaiser suggest that analysing errors on person pronouns provides additional evidence relevant to the Linguistic Features Hypothesis. Specifically, ~~this~~ these data supported the position that pronouns are acquired one component at a time and that individuals differ in the order of acquisition.

To make our results comparable to previous work, we studied three major semantic components of pronouns: Number (that is, singular or plural), Person (first, second, or third, and Case (subjective, objective, and genitive). Comprehension data were thus obtained for the three cases of the following seven prounouns: "I, you,

he, she, it, we, and they." You can see a listing of these groups in Table 1 on p. 2 of your handout.

Our subjects were 30 middle-class native English speakers. We used 5 girls and 5 boys in each of 3 age groups: 2½, 3½, and 4½ years. The experimenter and 2 adolescents (1 male and 1 female) were seated at a small table across from the subject. Before we began, each subject was asked to indicate which adolescent was the boy, and which was the girl. A teddy bear, which was the referent for "it", and 4 small blocks were on the table.

The following commands were used to test comprehension of the genitive and objective cases: "Point to my eyes, point to its eyes" etc. "Give me some blocks, give her some blocks, give yourself some blocks," etc. These commands required behavioral responses. For the subjective case, we used a question: "What am I wearing? What are they wearing" etc. These questions required a verbal response. There was no limit to the number of times a question was repeated. If the child was hesitant about making either kind of response, the experimenter said "Show me." Repetitions continued until a subject made a response, actively refused to respond, or lost interest. The experimenter was careful never to gesture or glance at the referent of the pronoun being tested. Two random orders of presentation were used.

The highest possible total score for each subject was 21. Note that for the plural forms "we," etc. the correct response had to include the experimenter, plus at least one other person - either the subject, one of the adolescents, or both.

Now for our Results.

Previous research had indicated that a subject might have a bias to continually respond in one particular way - for example, always pointing to the experimenter, regardless of the question. Therefore, we computed phi correlation coefficients to test for such biases in the subjects' responses. Results indicated that no such biases were found, so frequency data were used for our analyses.

Our initial scoring revealed no correct responses to "it" in any case, by any subject. It isn't clear whether this was due to lack of comprehension of the pronoun form or to problems with our testing situation. For example, the teddy bear may not have been an appropriate or sufficiently salient stimulus to be considered for a response. At any rate, we dropped "it" from further analyses.

Initially, we ran a 2-way ANOVA on the total scores of all Ss, collapsing across person, number, and case of the

pronouns. Here, on this overall look at our data, we found a main effect for Age, but not for sex. Post-hoc analysis using a Newman - Keul's list for multiple comparisons revealed that our youngest two age groups performed at about the same level, but our 4½ year olds were superior to both of them. Although significant differences existed between all these age groups, the greatest difference was between ages 3½ and 4½.

In addition to the effect for age, there was an Age x Sex interaction. At 2½, girls were better, at 3½ boys were better, and at 4½ the groups performed equally well. It should be noted here that one of our 3½ year old girls was especially poor on the task, for reasons we don't know. If we find ~~other~~ reasons to eliminate her data, then the sex effect will most likely exist only at age 2½. However, why it should exist here and not later is unclear. Note that eliminating this S might also change the age effect so that the primary break comes earlier, from 2½ to 3½.

Our next question was to ask, if the older Ss are better, how are they better? To answer this, we ran separate analysis to test for the effects of Pronoun Group (that is, treating all 3 cases of a pronoun as one group - I, me, mine, and collapsing across the Analyses for other variables), as well as running analyses for Number, Person, and Case. In each of these analyses we also looked at Age and Sex. Let me summarize results

of the last 2 variables by saying that in all analyses we found a main effect for age. Our 4½ year olds were always superior to the 2 younger groups. In most analyses, we found the previously described Age x Sex Interaction.

Now let's look at the other major variables. Let me begin with the Case component. We ran a 3 way ANOVA - that is, Case by Age and Sex and found no effect for case. Evidently, when a pronoun was comprehended by our subjects, it was understood equally well in all 3 cases. This contradicts what would be expected from a linguistic features analysis, and indeed contradicts the data from Huxley's subjects whose ages were within a few months of our own subjects. Theoretically, the subjective form is the unmarked form and should be acquired earlier. In addition, verbs are marked for the subject form of the pronoun, thus giving children more cues about this case. From our data, it seems that if there is a sequence to the acquisition of case, it must occur before the age of 2½.

In our analysis to look for the effect of pronoun group (one of the seven listed on your handout), we did find a significant effect. In this particular analysis I will just use the subjective form for each pronoun to refer to all 3 cases. This "I" will refer to 'I, my, mine,' "She" to 'she, her hers,' etc. Post hoc analyses indicated that the easiest pronouns were the singular groups "I, you, he, she." Although the differences among

these groups were not significant, the easiest groups of all were "I" and "You." Almost all subjects in all age groups got these 2 pro. groups totally correct. Even our 2½ year olds knew "you" as well as they did "I" and they knew them as well as the 4½ year olds. Thus looking at pronoun group as a variable we did not find

support for the linguistic features hypothesis which predicts that first person will precede second. Neither does our research, in fact, support Sharpless' perceptual complexity hypothesis which focuses on the CD feature, and predicts that the - CD (unmarked) or 3rd person term should be acquired before the second person.

The specific pronoun effect from our post hoc analysis, was in fact, substantiated by a separate three way ANOVA which we had also run to check for the effects of Number, Age, and Sex. In fact, overall singular forms were comprehended significantly better than plural ones. This result is clearly harmonious with Linguistic Feature Analysis.

What was still unclear was the effect of the Person component on acquisition. Since comprehension of "you" in the plural could not be tested, (there were 3 singular prounoun groups ("I, you," "he" or "she," depending on sex of subject) but only 2 plural ones ("we" and "they"). ~~So~~ we ran 2 analyses to test the effect of the person component - one for singular forms and a separate one for plural forms. Within the singular pronouns, there was a main effect for Person. Post hoc analyses revealed that "I" and "You" were significantly easier than "he" or "she." Thus for singular forms, the Linguistic Feature Hypothesis was partially supported. Of the three forms, 1st and 2nd should occur before third - they both contain the feature + CD. But we did not see the earliest sequence predicted where first person (+ Ego or speaker) should be

learned before second (-Ego), or person addressed). Thus our results do not completely duplicate those of Huxley or Sharpless whose Ss (C addressed Cond.) learned first person earliest. We should note that Huxley's subjects were 2 yrs. 3 months at the beginning of her study, and Sharpless' were only 21 mo. initially. So it may well be that "I" is acquired earlier than "you" but that as Sharpless suggests, "I" comes in as early as 20 mo., with "you" following later.

The result for plural forms were even more discrepant. Here, no Person effect was found. Subjects understood "we" and "they" equally well. These data offer no support for Huxley's position that "we" is the pronoun with the most complicated set of sem. features.

Finally, we wanted to see if there was any consistency in the types of errors that our subjects made. For example, were there more total errors ? that is choices of completely unacceptable referents such as pointing to herself when the experimenter said "they", missing both number and person. Or, if more partial errors were found, were they more likely to be made on the basis of Person, or of Number? Thus we ran error analyses on the "we and they" groups - the forms which contain both Person and Number components, thus allowing us to contrast the 2.

Looking just at the errors on the "we" group, (we, our, ours) we found that the subjects consistently made errors by pointing only to the experimenter, thus maintaining the Person

component (that is the referent for "we" should include the experimenter, but missing the fact that "we" is a plural form and must reference others as well). Note that this pattern was found although earlier we had established that there was no response bias for any subject to always point to the experimenter.

Results were less clear cut for the third person plurals ("they, theirs, them"). Total errors were made as frequently as partial errors. When partial errors were made they were as likely to maintain the Person component as the Number component. Thus our data on errors offer only meager support to Baron & Kaiser - that of partial vs. total errors in the first person form. We found no such effect for plurals. Where we did find partial errors we found better performance on Person, than Number, which they did not. And - obviously - we did not find individual strategies for partial errors -- when our subjects made them, they erred on the basis of number.

In summary, as indicated in table 2 of your handout, our data offer only the following partial support for linguistic feature analysis: (singular forms comprehended before plural ones) and first and second person understood before third - but only in the singular forms. Thus our data also somewhat supported Sharpless' data (in the person addressed condition) but neither our data nor her own support her theory. And finally, unlike Baron and Kaiser, we did find our partial errors to be partial - they were in fact, biased against the Number component.